

What is Claimed is:

1. An apparatus used to realize secured switch of computing system status, which includes:

request unit, to request the computing system to switch from the present status  
5 to the previous status;

switch unit, to realize status switch of the stated computing system;

control unit, to ensure the status switch process absolutely uninterruptible; and

the stated control unit responds to the requests from the request unit, and controls the switch unit to switch from the present status to the previous status.

10 2. As to the apparatus stated in Claim of Rights 1, the stated switch unit is an on-off switch, which is used to switch selectively between the present and previous status of the computing system as per commands from the control unit in order to change or resume all the present alterable status information of the computing system.

15 3. As to the apparatus stated in Claim of Rights 1, the control unit further includes an ID verification unit to ensure that the switch unit can execute its operation only after the ID verification.

4. As to the apparatus stated in Claim of Rights 1-3, the control unit includes:

memory, to store the control commands to complete status switch operations;

20 monitoring unit, to ensure that the responses to status switch requests can be executed only by the control commands in the memory. Otherwise, the switch unit can not work.

5. As to any one of the units stated in Claim of Rights 4, the control unit further includes:

set trigger, as the symbol to allow the switch unit to carry out its normal operations, and simultaneously sends out NMI to the CPU of the computing system;

reset trigger, to reset the stated set trigger after switching in case of being misused by any other programs.

5           6. As to the apparatus stated in Claim of Rights 5, the control unit further includes an interrupt monitoring unit, which ensures that the stated non-maskable program can not be interrupted before finishing the reset of the stated reset trigger.

7. As to any one of the units stated in Claim of Rights 1-3, the control unit includes:

10           memory, to store the control commands to complete status switch operations;

a unit forbidding to W/R all the RAMs in the computing system, to ensure that the only programs stored in the stated memory can be executed in the switching process.

8. A method to realize secured switch of computing system status, which includes:

15           a) to receive the requests to switch the computing system from the present status to the previous one;

b) to respond to the requests and execute a status switch control program that is absolutely uninterruptible with guarantee;

20           c) to switch the computing system from the present status to the stored previous one in order to change or resume all the alterable status information of the computing system.

9. As to the method stated in Claim of Rights 8, the step b) further includes:

to ensure that the switch can be executed only after ID verification.

10. As to the methods stated in Claim of Rights 7 or 8, the step b) includes:

d) to set symbols to allow normal switches and simultaneously send out NMI;

e) to reset the stated symbols after switching in case of being misused by any other programs.

5 11. As to the method stated in Claim of Rights 9, the step b) further includes:

to ensure that the stated non-maskable program is absolutely uninterruptible before finishing the stated reset.

12. As to any one of the methods stated in Claim of Rights 7-8, the step b) includes:

10 to ensure that the responses to status switch requests can be executed only by the prearranged control programs. Otherwise, no switch is allowed.

13. As to any one of the methods stated in Claim of Rights 7-8, the step b) includes:

15 to forbid to read or write all the RAMs in the computing system, and ensure that the only programs stored in the stated memory can be processed in the switching process.